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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,486	04/27/2006	Tomoyuki Kanno	136163	5122
25944 7590 05/05/2008 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
BEHM, HARRY RAYMOND				
ART UNIT		PAPER NUMBER		
2838				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/577,486

**Applicant(s)**

KANNO, TOMOYUKI

**Examiner**

HARRY BEHM

**Art Unit**

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 4/27/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)  
Paper No(s)/Mail Date 1/10/07 and 4/27/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Inventor's Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

The specification received 4/27/06 is accepted.

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: it is unclear what limitation Applicant intends by the claim language adding an output voltage generated by the rectification circuit (Fig. 1 a3) to the secondary side voltage (Fig. 1 a2).

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohsawa (US 2003/00808695) in view of Bonnet (US 5,856,916).

With respect to Claim 1, Ohsawa discloses a high voltage discharge lamp (Fig. 3 13) lighting apparatus comprising:

a rectification circuit (Fig. 3 4) having a forward function (Fig. 3 21) and a flyback function (Fig. 3 22), disposed on a secondary side (Fig. 3 1<sub>s</sub>) of a transformer (Fig. 3 1) and receiving a secondary side voltage (Fig. 3 voltage 1<sub>s</sub>).

Ohsawa does not disclose an auxiliary booster rectifying circuit. Bonnet teaches implementing an auxiliary booster rectifier circuit (Fig. 10 C4, D5-D7) for a converter driving a discharge lamp.

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a voltage-doubler circuit (Bonnet Fig. 10 C4, D5-D6) adding to the secondary side voltage (Ohsawa Fig. 3 voltage 1<sub>s</sub>) an output voltage generated by the rectification circuit (Fig. 3 voltage to inverter) having the forward function (Fig. 3 21) and the flyback function (Fig. 3 22).

The reason for doing so is "using auxiliary circuits at the converter secondary as shown in [FIG. 10], improves again the converter output characteristic", (Bonnet column 5, lines 7-9).

With respect to Claim 2, Ohsawa in view of Bonnet disclose the high voltage discharge lamp lighting apparatus according to claim 1, wherein an inverter circuit (Fig. 3 11) and a booster circuit (Fig. 3 12) are connected to a rear stage of the voltage-doubler circuit (Bonnet Fig. 10 C4, D5-D6 connected to Ohsawa Fig. 3 4).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HARRY BEHM whose telephone number is (571)272-8929. The examiner can normally be reached on 7:00 am - 3:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm E. Ullah can be reached on (571) 272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Harry Behm/  
Examiner, Art Unit 2838

/Jeffrey L. Sterrett/  
Primary Examiner, Art Unit 2838